

**TRACHYMENE CYANANTHA, A NEW SPECIES OF  
UMBELLIFERAE FROM QUEENSLAND**

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**SUMMARY**

*Trachymene cyanantha* differs from *T. glaucifolia* (F. Muell.) Benth. and *T. ochracea* especially by having dimorphic papillae on the solitary mericarp: it has a chromosome complement of  $2n=22$ .

**Trachymene cyanantha** D. E. Boyland; species nova *T. ochraceae* L. Johnson et *T. glaucifoliae* (F. Muell.) Benth. affinis ab hac umbellis mericarpiisque minoribus ab illa floribus caeruleis mericarpiis majoribus, mericarpio unico evoluto ab ambabus papillis in margine mericarpium majoribus obtusis papillas multo minores circumdantibus differt. Typus: prope Cheepie in Queensland, *Pedley* 2449 (holotypus BRI.103874). Isotypi distribuendi—K, CANB, NSW, AD, PERTH, L, US, AAU, B, US, GH, PNH.

Herba annua (vel biennis?). Caules glabri, solitarii vel pauci, simplices vel aliquando ramosi, humifusi usque erecti usque ad 45 cm altos raro prostrati. Folia petiolata; laminae glabrae raro pilos paucos dissitos instructi, ambitu depresso ovatae raro late ovatae, tripartitae. Folia basalia petiolis gracilibus usque ad 11 cm longis plerumque pilos paucos basim versus instructi; laminae usque ad 5 cm longae, plerumque 7 cm raro 10 cm latae; segmenta primaria anguste obtrullata usque late obtrullata interdum trullata usque ad 5 cm longa usque ad 3 cm lata, irregulariter pinnatifida 1–4 segmentis secundariis anguste oblongis; segmenta secundaria integra vel irregulariter 2–3-lobata lobis usque ad 4 mm latis. Folia caulina inferiores praeter laminas minus divisas foliis basalibus similia; folia caulina superiores segmentis primariis anguste oblongis integris vel 1–2-lobatis. Pedunculi glabri. Umbellae  $\pm 5$  usque ad 45, 10–16 mm diam.,  $\pm 25$ –40-flores. Bractee glabrae, lineares acutae usque ad 4 mm longae. Pedicelli sub anthesi 2.4–3.6 sub fructu 3–5 mm longi. Sepala inconspicua. Petala caerulea late elliptica 1–1.4 mm longa, 0.8–1.2 mm lata. Filamenta 1.2–1.8 mm longa. Antherae  $\pm 0.5$  mm longae. Styli 0.8–1.2 mm longi. Mericarpia solitaria ochracea, oblique rotundata  $\pm 2.6$ –3.6 mm longa,  $\pm 2$ –2.6 mm lata, papillosa; papillae dimorphae eae marginis 14–22 obtusae  $\pm 0.5$ –0.7 mm longae  $\pm 0.2$  mm latae papillas 5–17 multo minores circumdantes. Chromosomatum numerus:  $2n = 22$ .

Annual (perhaps biennial?) herb. Stems glabrous, solitary to several, unbranched or occasionally branched, procumbent to erect up to 45 cm high rarely prostrate. Leaves petiolate; blades glabrous or rarely with a few scattered hairs, depressed ovate or rarely broadly ovate in outline, tripartite. Basal leaves with petioles up to 11 cm long usually with a few hairs towards the base; blades up to 5 cm long up to 7 cm wide rarely 10 cm wide; primary segments narrowly obtrullate to broadly obtrullate sometimes trullate up to 5 cm long and up to 3 cm wide, irregularly pinnatifid with 1–4 narrowly oblong secondary segments; secondary segments up

to 4 mm wide entire or with 2–3 unequal lobes. Lower cauline leaves similar to basal leaves but blade usually less dissected; upper cauline leaves with primary segments narrowly oblong, entire or 1–2-lobed. Peduncles glabrous. Umbels  $\pm$  5 to  $\pm$  45 per plant, 10–16 mm diam.,  $\pm$  20–45-flowered. Bracts glabrous, linear acute up to 4 mm long. Pedicels in flower 2.4–3.6 mm long in fruit 3–5 mm long. Sepals inconspicuous. Petals blue, varying from very pale blue to deep blue, broadly elliptic, 1–1.4 mm long, 0.8–1.2 mm wide. Filaments 1.2–1.8 mm long. Anthers  $\pm$  0.5 mm long. Style 0.8–1.2 mm long. One mericarp only developed, yellow-brown, obliquely rounded,  $\pm$  2.6–3.6 mm long  $\pm$  2–2.6 mm wide, papillose. Papillae dimorphic, 14–22 obtuse marginal papillae  $\pm$  0.5–0.7 mm long  $\pm$  0.2–0.3 mm wide surrounding 5–17 much smaller papillae. Chromosome number:  $2n = 22$ .

QUEENSLAND.—GREGORY SOUTH DISTRICT: 80 miles W of Quilpie towards Windorah, 4–9–1963, *Cockburn* 11 (pale blue flowers). MITCHELL DISTRICT: Barcarolle on the Thomson River, in 1929, *Berney* 92 (blue flowers). WARREGO DISTRICT: “Ambathalla”, May 1914, *Barlow*; Adavale Road, 28–8–1923, *MacGillivray*; about 20 miles E. of Quilpie, 9–7–1969, *Anson* 1; 57 miles from Charleville on Quilpie Road, red-brown gravelly fine sandy loam with mulga, 1–9–1963, *Everist* 7517 (herb with central root and many branched prostrate stems, leaves dull green, flowers very pale blue); “Bardo”, Adavale, 5–4–1966, *Anson* (blue-flowered); 82 miles WNW. of Charleville, on road to Adavale, June 1967, *Gittins* 1224 (flowers blue, foliage not notably glaucous); 26° 52' S., 145° 08' E., 15 miles S. of Cheepie, on hard red-brown loam with scattered *Acacia aneura* and *Eucalyptus populnea*, 9–9–1967, *Pedley* 2449 (herb to 18 inches, flowering stems arising from rosette of leaves, corolla pale blue fading to white); 8 miles S. of Quilpie on road to Toompine on mulga gravels, 28–9–1968, *Williams* 117 (blue-flowered, 12 inches high); 22.1 miles N. of Toompine on the old road on red mulga loams, 17–6–1969, *Trapnell* E42 (blue-flowered, 12–15 inches high); between Beechal Creek and 30 miles SW. of Charleville on Quilpie Road, Aug. 1969, *Silcock*; 26° 53' S., 144° 45' E., about 25 miles SW. of Cheepie, slightly undulating plain on sandy red loams over clay with scattered *Acacia* spp. and *Eucalyptus terminalis*, 17–11–1970, *Boylard* 854 (semi-erect herb, 22 cm high, flowers very pale blue, fruits yellow-brown).

This species occurs in south-western Queensland usually on red-brown gravelly sandy loams often associated with *Acacia aneura* (mulga) (Fig. 3).

Plants of *Trachymene cyanantha* do not exhibit any glaucousness and this usually applies to plants of *T. ochracea* L. Johnson and even to many of the specimens of *T. glaucifolia* (F. Muell.) Benth. examined from Queensland, New South Wales, South Australia, Western Australia and Northern Territory. *T. cyanantha* resembles *T. glaucifolia* and *T. ochracea* in leaf-shape but blades of *T. cyanantha* are usually more dissected. *T. cyanantha* is similar to *T. ochracea* in range of diameter of umbel, number of flowers per umbel and range of petal size. One mericarp only is developed in *T. cyanantha* and *T. glaucifolia* but two are usually developed in *T. ochracea*. In habit, *T. cyanantha* is less robust than *T. glaucifolia* and usually shorter and less erect with stems more spreading than either *T. ochracea* or *T. glaucifolia*. The mericarps of *T. cyanantha* (2.6–3.6 mm long) are larger than those of *T. ochracea* (2–2.5 mm long) but smaller than those of *T. glaucifolia* (4.5–7 mm long) and because of their dimorphic papillae further differ from those of *T. glaucifolia* with their randomly arranged more numerous smaller papillae and from *T. ochracea* with obtuse protuberances randomly scattered over the surface of the mericarp (Fig. 2). The umbels and flowers of *T. cyanantha* (umbels 10–16 mm diameter, petals 1–1.4 mm long) are smaller than the umbels and flowers of *T. glaucifolia* (umbels 20–30, rarely

35 mm diameter, petals 1.6–2.2 mm long). *T. cyanantha* differs from *T. ochracea* in being glabrous and not glandular pubescent in the lower region of the peduncle. Another difference between *T. cyanantha* and *T. ochracea* is the blue petals (sometimes fading to white) of the former compared with white petals of the latter.

The following key may be used to distinguish the three species:—

Umbels 20–30 (rarely 35) mm diam.; fruiting mericarp 4.5–7 mm long covered with numerous papillae *T. glaucifolia*

Umbels less than 16 mm diam.; fruiting mericarp not as above:

Petals white, fruiting mericarp 2–2.5 mm long with 20–30 obtuse papillae ± randomly scattered over the surface *T. ochracea*

Petals blue, fruiting mericarp 2.6–3.6 mm long with 14–22 obtuse marginal papillae surrounding 5–17 much smaller papillae *T. cyanantha*

**Trachymene glaucifolia** (F. Muell.) Benth. Fl. Aust. 3: 350 (1866).

*Didiscus glaucifolius* F. Muell. Linnaea 25: 395 (1852).

*Didiscus glaucifolius* F. Muell. var. *macrocarpus* Domin, Sitzungsber. Königl. Böhm. Ges. Wiss. Prag No. 10: 50 (1908).

*Distribution.*—This species occurs in all mainland states of Australia except Victoria chiefly in the arid region. Often it is found on sandy soils in places associated with extended flanks of sand-dunes. In Queensland it has been collected about as far north as Cluny homestead (24° S. approx.), about as far south as Lake Bundegolly (28° 05' S. approx.) and as far west as the Queensland-Northern Territory border (138° E.). Lake Bundegolly (144° 05' E. approx.) is also the most eastern locality (Fig. 3).

**Trachymene ochracea** L. Johnson, Contr. N.S.W. Nat. Herb. 3: 101 (1962).

*Distribution.*—This species is found on the north-west and far north-west plains of New South Wales (Johnson, loc. cit.) and in south-western Queensland. It usually occurs on red-brown loams associated with *Acacia aneura* (mulga) and in places is found on low sandy ridges over red-brown loams. In Queensland it has been collected about as far north as Langlo Crossing (26° 10' S. approx.), about as far south as Cunnamulla (28° 05' S. approx.) and about as far west as Lake Bundegolly (144° 05' E. approx.). The most eastern collection is about the Balonne River (148° 45' E. approx.) (Fig. 3).

### ECONOMICS

*Trachymene cyanantha* and *T. ochracea* have been suspected on strong field evidence of being toxic to sheep. There is no field evidence against *T. glaucifolia*. Reports in literature implicating *T. glaucifolia* (*Didiscus glaucifolius*) (Everist, 1947; Hurst, 1942) actually refer to *T. ochracea* which at that time was not distinguished from *T. glaucifolia*.

Feeding tests in New South Wales (Edgar and Ropert 1942) showed *T. ochracea*, identified at the time as *T. glaucifolia*, to be toxic to sheep. It is likely that all records of poisoning attributed to *T. glaucifolia* in Queensland prior to 1962 referred to either *T. ochracea* or *T. cyanantha*. *T. ochracea* was shown to be toxic when fed to sheep at Animal Research Institute, Yeerongpilly, Queensland (Laws, unpublished report). Recent tests at Animal Research Institute, Yeerongpilly showed extracts from both *T. ochracea* and *T. glaucifolia* to be toxic to mice (McEwan, personal communication).

#### ACKNOWLEDGEMENTS

I am grateful to present and past directors of herbaria at Sydney (NSW), Melbourne (MEL) and Adelaide (AD) for the loan of specimens. I wish to thank my colleague Mr. R. J. F. Henderson for carrying out the cytological studies on the new species.

#### REFERENCES

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- HURST, E., 1942: The Poisonous Plants of New South Wales. Poison Plants Committee, New South Wales, Sydney, 305-306.
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QUEENSLAND HERBARIUM, BRISBANE  
 FLORA OF QUEENSLAND - WARRIGOI DISTRICT

*Trachymene cyanantha* D.E. Boyland

26° 52' S, 145° 08' E; 24.2 km (15 miles)  
 S of Oopie; hard red-brown loam with  
 scattered *Acacia aneura* and *Eucalyptus*  
*populnea*.

L. Pedley 2449 9 Sept. 1967

Herb to 45 cm, flowering stem arising  
 from rosette of leaves, corolla pale  
 blue fading to white.

HOLOTYPE OF

*Trachymene cyanantha* Boyland



FIG. 1. Holotype of *Trachymene cyanantha*. Photo, G. E. Cripps.



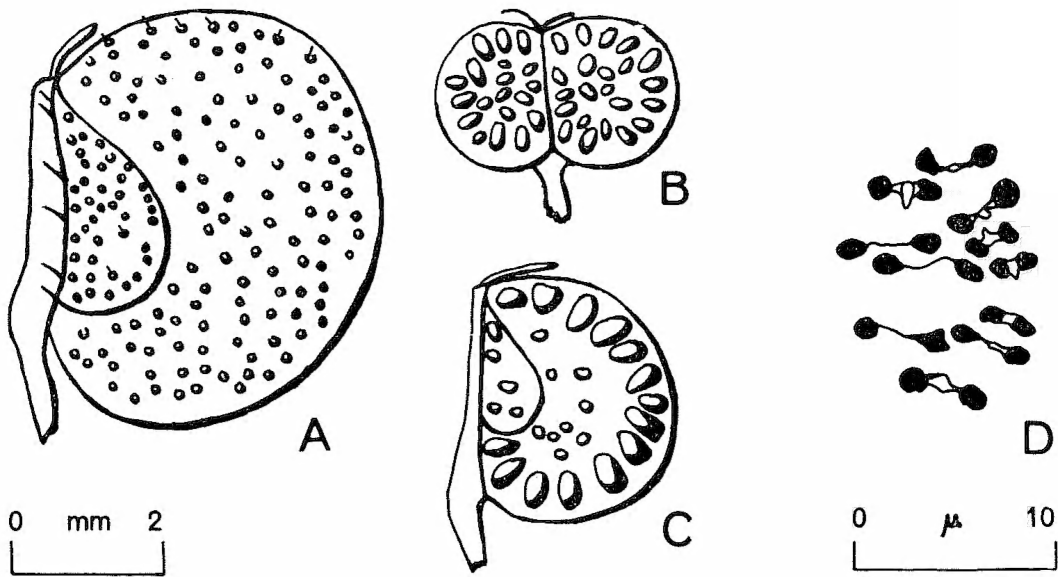


FIG. 2. A, mericarp of *Trachymene glaucifolia*. B, mericarps of *T. ochracea*. C, mericarp of *T. cyanantha*. D, chromosomes of *T. cyanantha*,  $2n=22$  (metaphase I in meiosis).

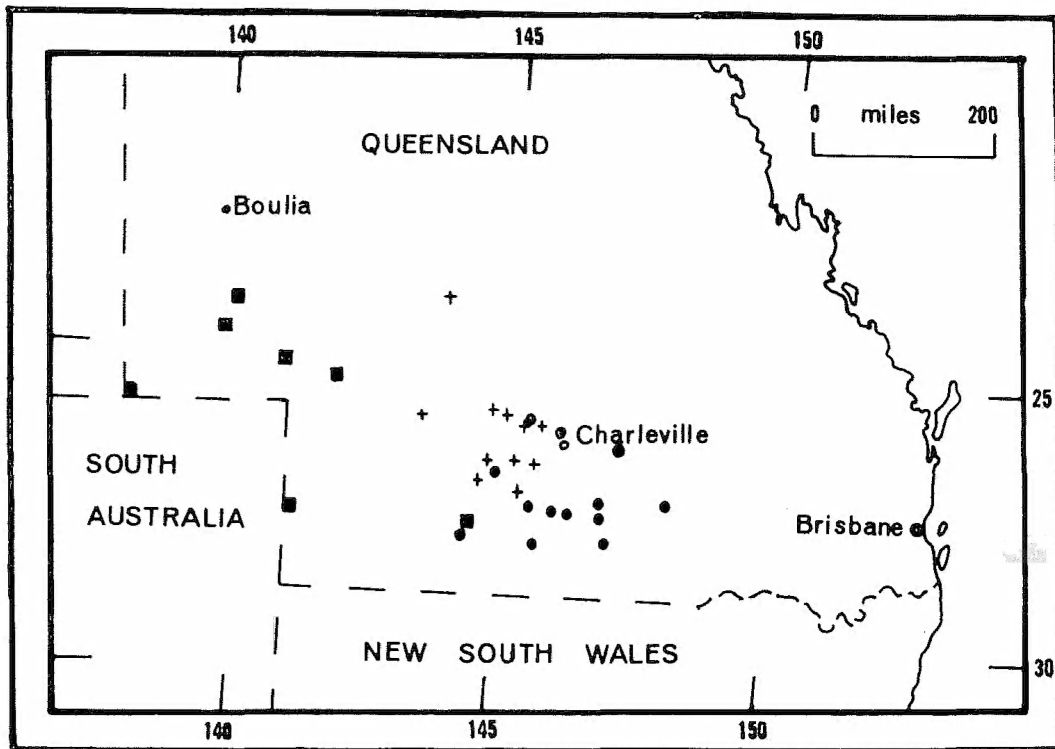


FIG. 3. Distribution of *Trachymene cyanantha* (+), *T. glaucifolia* (■) and *T. ochracea* (●).